

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of  
Jong Chul BANG

Confirmation No.: 6624

Serial No.: 10/721,179

Group Art Unit: 3749

Filed: November 26, 2003

Examiner: Kenneth RINEHART

For: DRYER

Customer No.: 34610

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

U.S. Patent and Trademark Office  
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Randolph Building  
401 Dulany Street  
Alexandria, Virginia 22314

Sir:

Applicant requests review of the rejection of the above-identified application in the Office Action dated January 14, 2008. No amendments are being filed with this Request. This Request is being filed with a Notice of Appeal.

The Office Action rejects claims 1-4, 6, 7, 9, 20, 37, 38 and 40 under 35 U.S.C. §103(a) over U.S. Patent No. 5,925,273 to Sherrill (hereinafter "Sherrill") in view of U.S. Patent No. 4,700,495 to Drews et al. (hereinafter "Drews"). The rejection is respectfully traversed.

Independent claim 1 is directed to a dryer including a heater assembly. The heater assembly includes a heater case having an air passage formed therein, and a plate that partitions the air passage into an upper passage and a lower passage. Independent first and second coil arrays are provided in the air passage. The first coil array crosses the plate multiple times such that a plurality of first coils of the first coil array are alternately positioned in the upper and lower passages. The second coil array also crosses the plate multiple times such that a plurality of second coils of the second coil array are alternately positioned in the upper and lower passages. The first and second coils positioned in the upper passage form an alternating pattern in the upper passage, and the first and second coils positioned in the lower passage form an alternating pattern in the lower passage such that each of the plurality of

first coils is positioned substantially directly across from a corresponding second coil of the plurality of second coils on the opposite side of the plate. Independent claim 37 recites similar features in varying scope. As acknowledged in the Office Action, Sherrill alone neither discloses nor suggests each of the features of independent claims 1 and 37, or the respective claimed combinations. Further, Drews fails to overcome the deficiencies of Sherrill.

Sherrill discloses a multistage heater assembly. Air designated by the arrow A flows first across a first heater element 10a (compared in the Office Action to the claimed first coil array), and then across a second heater element 10b (compared in the Office Action to the claimed second coil array). The elements 10a, 10b are mounted on a plate 14 within a housing. As shown in Figure 2 of Sherrill, the first element 10a includes six coils (compared in the Office Action to the claimed plurality of first coils), with three coils positioned adjacent one another above the plate 14, and three coils positioned adjacent one another below the plate 14 so as to form two parallel rows of first coils which face each other from opposite sides of the plate 14. Likewise, the second element 10b includes six coils (compared in the Office Action to the claimed plurality of second coils), with three adjacent coils positioned above the plate 14 facing three adjacent coils positioned below the plate 14. As clearly shown in Figure 2 of Sherrill, the first element 10a crosses the plate 14 only once, and the second element 10b crosses the plate 14 only once. Sherrill neither discloses nor suggests that the first and second heater elements 10a and 10b each cross the plate multiple times, as do the claimed first and second coil arrays.

Additionally, the individual coils of the respective first and second elements 10a, 10b are positioned sequentially, and in no way form any type of alternating pattern. There is no interspersion or intermixing between the coils of the first and second elements 10a, 10b, either above or below the plate 14. Thus, Sherrill neither discloses or suggests that the coils of the first and second elements 10a, 10b form an alternating pattern, either above or below the plate 14, as do the claimed plurality of first and second coils, nor that the coils of the first element 10a are positioned directly across the plate 14 from the coils of the second element 10b, as are the claimed plurality of first and second coils.

Further, Drews fails to overcome the deficiencies of Sherrill. Drews discloses a heater element 82 mounted on a plate member 84 in a heater box 40 of a dryer. The heater element 82 is arranged in an open figure 8 pattern (see Figure 6 of Drews) and is suspended beneath the plate member 84 from a plurality of insulation posts 86. Openings 87 in the plate member 84 facilitate air flow around the element 82 to increase efficiency and reliability.

The heater element 82 is a single, continuous coil that extends around one end of the plate member 84 and is connected to the control circuitry of the dryer by a connection plug 98 positioned at the other end of the plate member 84. Drews neither discloses nor suggests that the element 82 crosses the plate member 84 at any point, let alone multiple times, as do the first and second coil arrays recited in independent claims 1 and 37. Further, because the element 82 consists of a single continuous coil, Drews necessarily neither discloses nor suggests first and second coil arrays having first and second coils that form alternating patterns above and below the plate, as recited in independent claims 1 and 37.

Accordingly, it is respectfully submitted that independent claims 1 and 37 are allowable over the applied combination, and thus the rejection of independent claims 1 and 37 under 35 U.S.C. §103(a) over Sherrill and Drews should be withdrawn. Dependent claims 2-4, 6, 7, 9, 20, 38 and 40 are allowable at least for the reasons set forth above with respect to independent claims 1 and 37, from which they respectively depend, as well as for their added features.

The Office Action rejects claims 10-13, 15, 16, 18, 21, 23-29, 31, 32 and 39 under 35 U.S.C. §103(a) over Sherrill. The rejection is respectfully traversed.

Independent claim 10 is directed to a heater assembly for a dryer. The heater assembly includes a heater case having an air passage formed therein, and a plate that partitions the air passage into an upper passage and a lower passage. The heater assembly also includes independent first and second coil arrays provided in the air passage, wherein the first coil array comprises a plurality of first coils alternately positioned in the upper and lower passages, and the second coil array comprises a plurality of second coils alternately positioned in the upper and lower passages such that the first and second coils

positioned in the upper passage form an alternating pattern in the upper passage, and the first and second coils positioned in the lower passage form an alternating pattern in the lower passage, wherein each of the plurality of first coils is positioned substantially directly across from a corresponding second coil of the plurality of second coils on the opposite side of the plate. Independent claim 24 recites similar features in varying scope. Sherrill neither discloses nor suggests each of the features of independent claims 10 and 24, or the respective claimed combinations. Further, it would not have been obvious to modify the heater assembly disclosed by Sherrill in the manner suggested in the Office Action.

More specifically, Sherrill neither discloses nor suggests that an upper coil from the first heater element 10a is positioned between two upper coils from the second heater element 10b, nor that an upper coil from the second heater element 10b is positioned between two upper coils from the first heater element 10a, as are the upper first and second coils recited in independent claims 10 and 24. Likewise, Sherrill neither discloses nor suggests that a lower coil from the first heater element 10a is positioned between two lower coils from the second heater element 10b, nor that a lower coil from the second heater element 10b is positioned between two lower coils from the first heater element 10a, as are the lower first and second coils recited in independent claims 10 and 24. Thus, Sherrill necessarily neither discloses nor suggests that the upper coils of the first and second heater elements 10a and 10b form an alternating pattern above the plate 14, and the lower coils of the first and second heater elements 10a and 10b form an alternating pattern below the plate 14, as do the upper and lower first and second coils recited in independent claims 10 and 24.

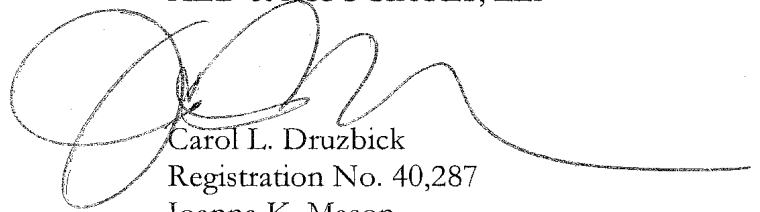
Further, it would not have been obvious to modify this sequential arrangement of the coils of the first and second heater elements 10a and 10b as disclosed by Sherrill. Such a rearrangement of the coils to in any way alternate, intermingle, or overlap the coils of the first and second heater elements 10a and 10b would require a complete redesign of the plate 14, mounting structure, crossover portions 22a and 22b, and terminal connections 28 to retain independent control of the heater elements 10a and 10b.

Such a modification would significantly affect the structural, mechanical, and electrical integrity of Sherrill's design, while adding complexity and cost.

Accordingly, it is respectfully submitted that independent claims 10 and 24 are allowable over Sherrill, and thus the rejection of independent claims 10 and 24 under 35 U.S.C. §103(a) over Sherrill should be withdrawn. Dependent claims 11-13, 15, 16, 18, 21, 23, 25-29, 31, 32 and 39 are allowable at least for the reasons set forth above with respect to independent claims 10 and 24, from which they respectively depend, as well as for their added features.

Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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